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Article Filing Instructions

We hope you find the *AMSD Journal* to be a valuable reference tool, and that you will want to refer to its articles frequently in the future. To make it easy and quick to find information, current articles are designed to be filed with articles from past issues. The entire set of *Journal* back issues forms three volumes: "General Information," "Software Information," and "Hardware Information." (The set of back issues is available for purchase. See "Subscription Information," above.)

The title of each feature article in this issue includes a reference number. Use the reference number to file the article in the back issue volume indicated at the top of each page of the article. For example, if the top of the first page of the article "6.5.5 One Hundred New Uses for MULTI," contains the words "Software Information," you know that article is to be filed in Section 6 of the "Software Information" back issue volume after article number 6.5.4.

The last pages of the *Journal* are new Tables of Contents for the back issue volumes, updated with entries for articles included in this month's issue.

Q&A Ask Alpha Micro: Questions and Answers

Q. When trying to restore a tape created by VIDEOTRAX in file-by-file mode, I get this message on status line 1:

Cannot read tape

What can I do to retrieve the data?

ANSWER: A likely reason for seeing this message is that there is no data on the tape and therefore no data to be restored. This problem might point to dirty heads on the VCR, bad cables or cables that are incorrectly installed.

This error message also appears when an attempt is made to restore a "bad tape." Such tapes may contain physical flaws preventing data from being read or possibly written in the first place. Bad tapes may result from backing up a bad or damaged disk. Or, this error message may appear when backing up files on a network if some of the files being backed up were accessed over the network during the backup, changing the file size.

AMSD Technical Support may be able to help you restore a "bad tape." Contact them at 714/640-6330 for more information.

Q. When using VIDEOTRAX to restore a tape that was previously backed up by VIDEOTRAX, the VCR has to constantly scan back to pick up data it seemed to miss on the first pass. What is causing this and how can it be remedied?

ANSWER: What you describe is what we refer to as "tape overruns." This is caused by the VCR not having the ability to wait for the computer to complete its read and write processes. When the computer "comes back" from its task to retrieve more data from the tape, the tape has already passed the point the computer is expecting to see next, and the VCR scans back to retrieve what it missed.

Tape overruns can occur when:

- A tape was previously backed up on one computer, and an attempt is made to restore it on a different computer.
- A tape was made with a previous version of either DOS or the VIDEOTRAX software.
- An attempt is made to restore to a full or badly fragmented disk.

Generally, you can remedy tape overruns by increasing the buffer count in the CONFIG.SYS file (Buffer=25). If a data transfer is going to be attempted-- making a tape on one computer and restoring it on another-- potential tape overruns can be prevented if a "one-time" increase in the copy count is given to the backup. Keep in mind that a backup with 8 copies will better prevent tape overruns than a backup with 4 copies, but the backup process will take twice as long. However, the restore may actually be faster since overruns are reduced.

1.1.21

AMOS Software Compatibility Chart

APPLICATION	VER	AMOS/L 1.0	AMOS/L 1.0A	AMOS/L 1.0B	AMOS/L 1.1	AMOS/L 1.1A	AMOS/L 1.2	AMOS/L 1.2A	AMOS/L 1.3	AMOS/L 1.3B	AMOS/L 1.3C	AMOS/32 1.0	AMOS/32 1.0A
AlphaWRITE	1.0 1.0A 1.1 1.1A 1.2 1.2A			X X X X	X X X X	X X X X	X X X X	X X X X	X X X X				
AlphaCALC	1.0 1.1 1.2			X X	X X	X X	X X	X X	X X				
Alpha-ACCOUNTING	1.4 1.4A 1.4B	X X	X X	X X X	X X X	X X X	X X X	X X X	X X X	? ? X	? ? X	? ? X	? ? X
AlphaLEDGER	1.0						X	X	X	? ?	? ?	? ?	? ?
MULTI	1.0								X*	X	X	X	X
AlphaBASE	4.8 4.8B							X	X				
UNIFY on AMOS	3.1									X	X	X	X
AlphaNET	1.0								X	X	X	X	X
AlphaRJE	1.0 1.1B 2.0A			X X X	X X X	X X X	X X X	X X X	X X X				
AlphaCOBOL	1.1 1.2 1.2A							X	X X	X X	X X	X X	X X
AlphaMAIL	1.0								X	X	X	X	X
AlphaMATE +	1.0							X	X	X	X	X	X
ELS	1.0A							X	X				
Alpha-FORTRAN 77	1.1 2.0 2.2				X X	X X	X X	X X	X X X				
AlphaPASCAL	1.0	X	X	X	X	X	X	X	X	X	X	X	X
AlphaC	1.0 1.0A								X X	X X	X	X	X
	VER	AMOS/L 1.0	AMOS/L 1.0A	AMOS/L 1.0B	AMOS/L 1.1	AMOS/L 1.1A	AMOS/L 1.2	AMOS/L 1.2A	AMOS/L 1.3	AMOS/L 1.3B	AMOS/L 1.3C	AMOS/32 1.0	AMOS/32 1.0A

LEGEND:

- X Version is compatible.
- * Compatible with AMOS/L patches -1 & -2 installed.
- ? Should be compatible, but has not been formally tested.
- + AlphaMATE 1.0 has some difficulty interfacing with the AM-350 on VME systems.

3.2.24

New Software Patches Available from AMSD

The following list gives a description of the new software patches now available from AMSD. The products affected by these patches are: AMOS/L and AMOS/32.

Patches in the following list include SPNs 255 through 272, released as of 20 May 1987. Only two patches are being released this month (SPN 267 and 268), patches 255

through 272 are shown on the list for continuity. As indicated on the list, some patches have already been released, some patches are still in test. See the May Journal Vol. 9, #5 - Software Article 3.2.23.

The SPN description in the purpose column ends with the software version(s) this patch is intended for.

SPN #	Module	Purpose
255		Released in a previous month.
256		Still in test.
257		Still in test.
258		Released in a previous month.
259		Released in a previous month.
260		Released in a previous month.
261		Released in a previous month.
262		Released in a previous month.
263		Released in a previous month.
264		Released in a previous month.
265		Released in a previous month.
266		Released in a previous month.
267	TSKINI	Optimizes task manager spooler to use CPU more efficiently. All versions of AMOS/L 1.3 and AMOS/32 version 1.0.
268	TSKMAN.OVR	Optimizes task manager spooler to use CPU more efficiently. All versions of AMOS/L 1.3 and AMOS/32 version 1.0.
269		Used internally.
270		Still in test.
271		Released in a previous month.
272		Released in a previous month.

3.3.14

FIXCRC Data Corruption Warning: SPN-271-01 Patch to FIXCRC.LIT

FIXCRC was created to simplify correcting CRC (Cyclic Redundancy Check) or ECC (Error Correction Codes) errors on disk blocks. Prior to its availability, the only tools available were DSKDDT or REWRIT. Or, you had to recertify the drive. These tools were too global or required more expertise and, consequently, more caution than was necessary. FIXCRC was designed to provide a simple solution for a situation that was a simple problem.

Each of these tools performs roughly the same way. A flag is set in the program to keep it from aborting upon a device error. The target block is read and immediately rewritten to the disk. The disk controller handles recalculating the CRC or the ECC upon output to the disk.

Though all device errors will be ignored by this technique, only a CRC error on the data field will actually allow the disk to be read. This type of CRC error is an error reported on the validity of the data that was read. All other device errors (such as CRCs on the ID field, "sector not found" errors, etc.) are actually a failure to read the disk.

It was assumed that FIXCRC would be used on disk blocks that contain CRC errors (AM-4?? Error Code 100 or Type 1, Code 1 errors). However, there is no way to identify within FIXCRC.LIT if the error is a CRC or another kind of device error.

This can create a problem if FIXCRC is used on a block that has an error other than a CRC. Because it will fail to read, the buffer will remain "zeroed-out." Upon the WRITE back to the disk, the data may be overwritten with this buffer filled with zeros. This is especially frustrating when the cause of the problem is not the media,

but some other hardware problem. The classic example of this is a "sporadic" CRC error on the address mark. In this case, the read attempt would not get to the sector in question because the address mark contained an error and the read function aborted. The buffer in FIXCRC still contains zeros and is written back to disk, correcting the CRC on the address mark and wiping out the data in the block.

Unfortunately, this is an ambiguous situation since it is possible that a CRC error exists AND the target block contains zeros.

SPN-271 to FIXCRC changes the program to check for a buffer filled with zeros and, if found, offers the user an option to abort rather than rewriting to the disk. In the above example where the error occurs sporadically, FIXCRC can be used on the block until it is successful. If a CRC error exists and, coincidentally, the target block contains zeros, FIXCRC still stops and prompts for continuation. However, the disk error would be on the screen and the user would recognize that the error was a CRC on the data and that writing to the disk is OK.

The following patch (SPN-271) to FIXCRC will provide this enhancement. Be sure that TYPE statements are entered exactly as shown or the New Hash will not come out correctly. Specifically, the differences in upper and lower case within the TYPE, TYPECR and literal comparisons are most important.

3.3.14 (Continued)

FIXCRC Data Corruption Warning: SPN-271-01

Patch to FIXCRC.LIT

SPN-271-01

Patch to SYS:FIXCRC.LIT

All AMOS/L 1.3 Versions

All AMOS/32 Versions

FIXCRC attempts to rewrite the target block whether or not the read was successful. If the read fails, rather than contain possible corrupted data, the possibility exists that the write will "zero-out" a data block that may otherwise be recoverable. This patch gives the user the choice to write to the disk under such circumstances or abort the write.

Installation instructions:

1. From AMOS command level LOG to SYS: and type:

DIR/H/V FIXCRC.LIT [RET]

Compare the existing hash total and version with the beginning hash and version listed in step 5 to insure that this patch has not been installed. If it has not, proceed with the patch.

2. If one does not already exist, create a disk account to be used for patch files.
3. Create an AlphaVUE file named FIXC01.M68 and enter the text shown on the following page.
4. Create a copy of FIXCRC.LIT in the account where you made FIXC01. For example:

COPY = SYS:FIXCRC.LIT

5. Enter the command:

PATCH FIXCRC WITH FIXC01

You will see the patch file being assembled and installed. If any error messages appear, check to make sure that you have entered the patch file correctly and are trying to patch the correct version of the program. If the patch file appears to have been entered correctly, and error messages still appear, please contact the Technical Support Group, (714) 641-7608 for further information.

Old hash and version

337-676-670-041 1.0(100)

New hash and version

221-554-136-342 1.0(100)-1

6. After the patch has been installed correctly, copy the patched version of FIXCRC.LIT to SYS:.

3.3.14 (Continued)**FIXCRC Data Corruption Warning: SPN-271-01
Patch to FIXCRC.LIT**

```
;Patch #1 to SYS:FIXCRC.LIT Version 1.0(100) All AMOS/L 1.3 &
;All AMOS/32 1.0
;SPN-271L
;Copyright (C) 1987 - Alpha Microsystems
```

	COPY	PATCH
	OVER	1,0,0,100.,0
	NVER	1,0,0,100.,1
	OHASH	337,676,670,041
	NHASH	221,554,136,342
	. = 72	
	CALL	ABC
	. = 150	
ABC:	JEQ	30\$
	MOV	22(A5),A6
	MOV	#127.,D6
10\$:	TST	(A6)+
	BNE	20\$
	DBF	D6,10\$
	TYPECR	<This block contains all zeros>
	TYPE	<Press 'y' to rewrite, press ^C to abort >
	KBD	30\$
	CMPB	@A2,#'Y ; Upper Case Y
	BEQ	20\$
	CMPB	@A2,#'y ; Lower Case Y
	BNE	30\$
20\$:	WRITE	@A5
	RTN	
30\$:	EXIT	
	END	

3.4.2

Programming Differences: 680xx Microprocessors

By: Robert Currier
Director, Future Systems
Advanced Products Division

The 68010 and 68020 microprocessors used in the AM-1500 and AM-2000 family of computers contain some minor differences in operation from the 68000 used in our other systems. These differences are for the most part very minor and are completely transparent to both the user and the assembly language programmer. There are, however, two areas of difference that may affect some software.

Stack Frames

The first is the content of stack frames during interrupt and exception processing. Both the 68010 and 68020 place additional information on the stack during the processing of all exceptions. This can cause software incompatibilities in programs which rely on stacked information being in a fixed location relative to the stack pointer. Only programs dealing directly with interrupts or other exceptions are typically sensitive to this, and in fact, very few of those programs are affected since the processors are usually called on to do their own unstacking, via the RTE instruction.

Note that all the different members of the 680xx processor family use different stack frames. Your program must look at the stack frame itself to determine what type it is and therefore what information it contains. Consult the appropriate Motorola processor manual for more information about stack frame types and their contents.

The SSTS Instruction

The second area of potential incompatibility is the SSTS instruction. In the original

68000 processor, this instruction was available in both user and supervisor modes. It was noticed, however, that this instruction allowed a user mode program to determine the true processor state, thus making a true virtual machine architecture impossible to implement. For this reason, the newer 68010 and 68020 processors treat the SSTS instruction as a privileged instruction and do not allow its execution in user mode. Because much user mode code exists that runs just fine on the 68000, this presented us with a potential incompatibility as software was moved to the newer systems.

As a replacement for the user mode SSTS instruction, Motorola provides the SCC instruction, which returns only a limited set of the processor status flags, thus preserving the ability to create a virtual machine environment. Because the two instructions (SSTS and SCC) are identical except in what flags they return, user mode programs can simply replace any existing SSTS instructions with SCC instructions, allowing them to run on the 68010 and 68020.

Simply making this change, however, creates a backward compatibility problem since the SCC instruction is not supported on the 68000. Rather than forcing everyone either to have two versions of software, or to have to check which processor they are on, we chose the option of modifying offending programs in place.

When running on a 68010 or 68020, a program attempting to execute a user mode SSTS instruction will generate a processor privilege violation exception, with control passing to the AMOS exception processor. Starting with AMOS/L 1.1A, anytime this occurs, AMOS replaces the SSTS instruction in the program with an equivalent SCC instruction in memory. All subsequent executions of this instruction will

3.4.2 (Continued)

Programming Differences: 680xx Microprocessors

then perform the SCC, avoiding the privilege violation trap.

This method of assuring compatibility works fine and takes no effort on the programmer's part. It does, however, have the side effect of changing the hash total for the memory module containing the SSTS instruction. While this does not usually cause any problems, some users have noted this change and have wondered what is happening.

The only way to avoid this changing hash total situations is either to have two versions of the software in question, or have the software determine the processor type and execute either the SSTS or SCC, as appropriate.

Determining Processor Type

The processor type can be determined by examining the following flags in the SYSTEM longword contained in the system communication area:

SY\$M10	40	68010 processor in use.
SY\$M20	20000	68020 processor in use.
SY\$M30	100000	68030 processor in use.

If none of these flags are set, a 68000 is in use. The flag values shown are in octal.

3.5.1

AMOS/L Hash Totals for Patches

The previous notice of AMOS hash totals for patches appeared in the Sept./Oct. 1986 issue of the AMSD Journal. (Please see Software article 3.2.10.) Since then, the AMOS/L 1.3C(157) and the AMOS/32 1.0A(157)-1 operating systems have been released and there have been patches to both, as well as to the MULTI, RJE, SMC Basic, AlphaWRITE software.

There are no new patches approved for AMOS/L operating system software prior to version 1.3(123). Since some programs' hash totals have remained the same, you might assume the correction could apply to operating system versions earlier than 1.3(123). However, this may or may not be so and is unverified and unsupported since no new patches for operating system versions earlier than 1.3(123) are approved. For a list of patches approved for AMOS/L versions earlier than 1.3(123), see Journal Software volume articles 3.2.3, 3.2.4, or 3.2.6.

New Publishing Procedures For AMOS Hash Total Lists

Beginning with the publication of this list, we have created a new category named "Program Hash Totals" within the Journal's Software Volume back issue set to accommodate the SPN listings we publish every six months or so. For AMOS/L the section number is 3.5, for AMOS/32 it is 8.5.

This article is the first to be assigned in the new category and will be the last time a complete update list of SPNs will be published. In the future, only those SPNs released since the previous article list will be given and will be numbered for filing in the back issue volume as the next consecutive article for the "Program Hash To-

tal" category. We will, however, continue to publish the monthly article listing the most recent SPNs released along with their problem and solution description.

Auxiliary Software Updates

The AMOS/L 1.3B(151) and AMOS/32 1.0(154) versions of the operating system are more complicated than previous releases because auxiliary software is required to bring these versions to the latest revision. Both AMOS Software releases require the following software updates to be made, in the same order as shown in the list below:

1. AM-350 Phase I Update
2. AM-515 Phase II Update
3. AM-640 Mag Tape Backup Software
4. AM-622 VME Streamer Support Software

Each of these auxiliary software support update tapes is required regardless of hardware configuration. Although they supply new software support for the new hardware they also update system software programs you already have to ensure compatibility with the new hardware.

Upgrading to AMOS/L 1.3C or AMOS/32 1.0A will avoid the need to install these auxiliary software tapes.

Further discussion of update requirements will appear in a future article. In the mean time, if you think a problem is caused by a difference in software versions, contact your dealer or Technical Support.

3.5.1 (Continued)

AMOS/L Hash Totals for Patches

Reading the SPN Lists

The SPN lists are organized in these major groups and begin on the article page number shown:

Page	List Name
3	Software Patch Notice Master List
9	AMOS/L 1.3(123) Patches
9	AMOS/L 1.3A(125) and AMOS/L 1.3I Patches
10	AMOS/L 1.3B(151) Patches
11	AMOS/L 1.3C(157) Patches
11	Patches to Special Purchase Software

Lists for patches on AMOS/32 1.0A(154) and AMOS/32(157) systems are included in this month's Software article 8.5.1.

Each list of patches is organized into 6 columns:

SPN

Software Patch Notice number. Lists the SPN number assigned to this patch.

Program

Lists the file name and extension to which the patch is applied. If no extension appears, .LIT is assumed.

Old Hash Total

Hash total for the file before the patch is made. "N/A" for the AMOSL.MON patches, for releases prior to the the existence of MONHSH, indicates a hash total on the monitor is meaningless since part of the monitor is the device driver.

New Hash Total

Hash total for the file after the patch is made. "N/A" for the AMOSL.MON patches indicates a hash total on the monitor is meaningless since part of the monitor is the device driver.

Product Version

Version number of the software product-- such as AMOS/L 1.0, AlphaWRITE 1.1A, AlphaCALC 1.2, etc.-- under which this patch is applied.

Program Version

Version number for the program after installing the patch. "N/A" in this column means the program does not have a version number.

3.5.1 (Continued)

AMOS/L Hash Totals for Patches

SOFTWARE PATCH NOTICE MASTER LIST

SPN Program	Old Hash Total	New Hash Total	Product Version	Program Version
001 PTCH	271-514-416-143	161-516-311-700	1.0(46)	1.0(103)-1
002 AMOSL.MON	N/A	N/A	1.0(46)	1.0(46)-1
003 RUN	777-573-136-322	463-433-264-332	1.0(46)-1	1.0(129)-1
004 SET	664-311-727-723	627-623-510-047	1.0(46)-1	1.0(103)-1
005 PRINT.LIT	553-743-536-055	343-556-742-165	1.0(46)-1	3.0(101)-1
006 WRMGEN	426-201-566-131	131-726-301-446	1.0(46)-1	1.0(103)-1
007 ISAM.SYS	474-353-157-552	666-371-263-570	1.0(46)-1	1.0(101)-1
008 ISMBLD	037-606-352-176	761-561-101-424	1.0(46)-1	1.0(100)-1
009 ISMDMP	727-677-374-230	043-734-425-771	1.0(46)-1	1.0(100)-1
010 DSKANA	354-362-620-245	271-634-161-712	1.0(46)-1	1.0(106)-1
011 ISAM.SYS	666-371-263-570	120-034-261-432	1.0A(46)-1	1.0(101)-2
012 ISMBLD	761-561-101-424	062-220-707-713	1.0A(46)-1	1.0(100)-2
013 ISMDMP	043-734-425-771	056-216-410-147	1.0A(46)-1	1.0(100)-2
014 LABEL	654-215-646-061	541-725-143-556	1.0A(46)-1	1.0(102)-1
015 VUE	654-033-112-146	657-617-565-711	1.0A(46)-1	2.6(106)-1
016 XEBDVR.DVR	101-662-730-215	401-645-375-776	1.0A(46)-1	N/A
017 XLOCK	177-434-431-557	656-375-776-171	1.0A(46)-1	1.0(100)-1
018 AMSORT.SYS	036-250-373-702	524-137-236-154	1.0A(46)-1	N/A
019 SORT	243-714-115-666	301-646-445-467	1.0A(46)-1	N/A
020 CRT420	417-537-607-775	617-561-016-302	1.0A(46)-1	1.0(105)-1
021 DSKPAK	111-516-100-312	730-273-105-440	1.0A(46)-1	1.0(102)-1
022 610DVR.DVR	150-030-102-354	506-147-246-122	1.0A(46)-1	N/A
023 RUN	463-433-264-332	764-025-003-550	1.0A(46)-1	1.0(129)-2
024 210DVR.DVR	253-706-772-141	145-500-061-500	1.0A(46)-1	N/A
025 SCNWLD.SYS	254-164-546-263	363-662-774-273	1.0A(46)-1	1.0(103)-1
026 CRT410	703-655-040-224	227-650-214-070	1.0A(46)-1	1.0(100)-1
027 TRM.DVR	244-020-036-252	762-007-741-447	1.0A(46)-1	N/A
028 RUN	764-025-003-550	401-543-366-362	1.0A(46)-1	1.0(129)-3
029 ISMBLD	062-220-707-713	176-136-305-446	1.0A(46)-1	1.0(100)-3
030 ISAM.SYS	120-034-261-432	700-273-345-570	1.0A(46)-1	1.0(101)-3
031 AMOSL.MON	N/A	N/A	1.0A(46)-1	1.0A(46)-2
032 AM100L ¹	456-273-565-707	436-251-570-265	1.0A(46)-2	N/A
033 AM120 ¹	523-543-535-623	503-405-363-766	1.0A(46)-2	N/A
034 PRINT.SBR	755-523-163-726	213-606-556-341	1.4 ⁵	1.0(100)-1
035 SPOOL.SBR	720-135-113-726	033-502-302-020	1.0A(46)-2	1.0(100)-1
036 BASORT.SBR	556-267-442-171	744-003-712-301	1.0A(46)-2	1.0(101)-1
037 INPUT.SBR	245-522-723-433	634-273-122-140	1.4 ⁵	1.0(100)-1
038 COPY	023-424-631-537	132-266-536-055	1.0A(46)-2	1.0(106)-1
039 FLOCK.SBR	351-570-311-662	440-073-715-727	1.0A(46)-2	1.0(100)-1
040 SET	627-623-510-047	674-135-244-360	1.0A(46)-2	1.0(103)-2
041 AM310 ¹	253-660-742-045	100-144-406-251	1.0A(46)-2	N/A
042 SPOOL.SBR	033-502-302-020	006-234-537-555	1.0A(46)-2	1.0(100)-2
043 ISAM.SYS	700-273-345-570	754-113-510-047	1.0B/A	1.0(101)-4
044 ISMBLD	176-136-305-446	025-776-342-310	1.0B/A	1.0(100)-4
045 AM60.TDV	600-317-512-353	156-260-164-274	1.0B/A	N/A
046 WRITE	123-722-307-446	444-047-043-572	1.0(140) ⁶	1.0(140)-1
047 WRTprt.OVR	653-621-507-441	046-252-105-674	1.0(140) ⁶	1.0(140)-1
048 WRTMRG.OVR	750-141-650-167	174-150-332-252	1.0(140) ⁶	1.0(140)-1
049 RUN	707-627-570-117	617-501-271-466	1.1/A	1.1(166)-1
050 WRITE	444-047-043-572	776-207-613-563	1.0(140) ⁶	1.0(140)-2

(continued)

3.5.1 (Continued)

AMOS/L Hash Totals for Patches

Software Patch Notice Master List (continued)

SPN Program	Old Hash Total	New Hash Total	Product Version	Program Version
051 SYSACT	165-722-335-406	425-717-220-252	1.1(68)	1.0(112)-1
052 WRITE	776-207-613-563	637-605-772-117	1.0(140) ⁶	1.0(140)-3
053 Internal Use				
054 COMPIL	666-373-272-346	246-134-043-740	1.1/A	1.1(166)-1
055 SYSACT	425-717-220-252	317-742-421-737	1.1(68)	1.1(112)-2
056 MTU ¹	625-431-621-467	452-211-721-517	1.1A(68)	N/A
057 VUE	657-617-565-711	711-503-321-502	1.0B/A	2.6(106)-2
058 Internal Use				
059 Internal Use				
060 Internal Use				
061 DSKDMP	472-145-451-425	105-642-502-141	1.1/A	1.0(101)-1
062 COMMON ¹	567-727-510-223	217-612-036-330	1.1A(68)	1.0(102)
063 Internal Use				
064 Internal Use				
065 ISMBLD	122-174-666-075	014-172-125-760	1.1/A	1.1(106)-1
066 ISMDMP	107-512-326-342	525-767-603-607	1.1/A	1.1(103)-1
067 ISAM.SYS	046-042-420-205	101-440-720-161	1.1/A	1.1(112)-1
068 AMSORT.SYS	524-137-236-154	256-312-204-312	1.0B/A	N/A
069 AMSORT.SYS	666-275-464-161	674-147-703-557	1.1/A	N/A
070 RUN	617-501-271-466	665-501-321-464	1.1/A	1.1(166)-2
071 STRSAV	752-331-543-521	623-745-470-143	1.1/A	1.0(103)-1
072 SUBMIT	322-164-705-721	313-676-107-436	1.1/A	1.1(101)-1
073 SUBMIT	164-310-404-063	475-627-633-673	1.0B/A	1.0(100)-1
074 Internal Use				
075 CALC	437-677-465-441	307-650-423-421	1.0(111) ⁷	1.0(111)-1
076 VCRRES	475-753-116-210	460-375-377-474	1.1/A	1.0(105)-1
077 VCRRES	160-324-614-303	460-233-210-152	1.0B/A	1.0(105)-1
078 AMOSL.MON	N/A	N/A	1.1(68)	1.1(68)-1
079 AMOSL.MON	N/A	N/A	1.1A(68)	1.1A(68)-1
080 Internal Use				
081 COPY	054-120-130-042	445-613-117-412	1.1/A-1	1.0(111)-1
082 Internal Use				
083 AMOSL.MON	N/A	N/A	1.1(68)-1	1.1(68)-2
084 AMOSL.MON	N/A	N/A	1.1A(68)-1	1.1A(68)-2
085 TXTFMT ²	203-474-611-473	724-355-012-256	1.1/A-2	1.0(107)-1
086 AMSORT.SYS	674-147-703-557	156-312-613-475	1.1/A-2	N/A
087 ISMBLD	014-172-125-760	516-025-535-471	1.1/A-2	1.1(106)-2
088 PRUN	174-306-447-537	625-551-606-337	1.0(105) ¹¹	1.0(105)-1
089 LOKSER.LOK	175-634-424-113	665-577-736-011	1.1/A-2	1.1(101)-1
090 LOAD	407-603-211-500	137-752-172-004	1.1/A-2	1.0(104)-1
091 AM1013 ¹	075-440-246-246	521-525-110-054	1.1/A-2	N/A
092 LOKGEN	517-701-407-437	753-403-472-351	1.1/A-2	1.1(100)-1
093 WRITE	450-047-564-375	204-150-674-145	1.0A ⁸	1.0A(140)-1
094 WRTPT.OVR	151-410-003-456	074-052-511-511	1.0A-1 ⁸	1.0A(140)-1
095 LOKSER.LOK	665-577-736-011	473-635-065-402	1.1/A-2	1.1(101)-2
096 WRTMRG.OVR	706-265-533-773	756-055-077-730	1.0A-1 ⁸	1.0A(140)-1
097 RUN	225-436-722-123	070-110-541-455	1.2	1.2(176)-1
098 ISAM.SYS	101-440-720-161	625-465-455-461	1.1/A-2	1.1(112)-2
099 ISMBLD	516-025-535-471	602-201-770-355	1.1/A-2	1.1(106)-3
100 LPR.M68 ¹	652-005-245-450	371-624-050-054	1.1/A-2/1.2	N/A

(continued)

3.5.1 (Continued)

AMOS/L Hash Totals for Patches

Software Patch Notice Master List (continued)

SPN	Program	Old Hash Total	New Hash Total	Product Version	Program Version
101	ISMDMP	525-767-603-607	707-635-240-226	1.1/A-2	1.1(103)-2
102	RUN	070-110-541-455	340-054-425-537	1.2	1.2(176)-2
103	RUN	665-501-321-464	075-512-664-147	1.1/1.1A	1.1(166)-3
104	ISAM.SYS	265-412-760-065	554-151-435-725	1.2	1.1(116)-1
105	ISMBLD	353-602-664-017	420-217-367-750	1.2	1.1(116)-1
106	ISMDMP	152-264-560-051	656-115-276-262	1.2	1.1(116)-1
107	PRINT.SBR	417-451-040-072	052-062-565-447	1.4B ⁹	1.0(102)-1
108	PRUN	625-551-606-337	661-605-050-362	1.0-1	1.0(105)-2
109	Internal Use				
110	AM6X.TDV	071-545-527-473	275-700-456-353	1.2	N/A
111	DSKPAK	130-312-230-356	033-714-622-257	1.2	2.0(106)-1
112	AM6X.TDV	071-545-527-473	217-620-734-325	1.2	N/A
113	WRT170.OVR	132-160-377-414	314-074-721-631	1.1(174) ¹⁰	1.1(174)-1
114	TSKMAN.OVR	767-561-416-143	607-471-754-365	1.1/A	1.1(103)-1
115	TSKMAN.OVR	621-575-726-105	477-563-747-623	1.2/A	1.1(104)-1
116	XEBDVR.DVR	615-465-737-403	267-654-631-475	1.2A	N/A
117	COMPIL	366-250-072-362	456-013-675-605	1.2/A	1.2(176)-1
118	FLPWIN	116-246-512-361	365-546-654-371	1.2/A	1.2(103)-1
119	FIX420	350-132-111-620	765-465-057-702	1.2A	1.1(115)-1
120	TSKINI	303-502-422-323	226-322-604-057	1.1/A	1.1(103)-1
121	TSKINI	072-052-301-554	413-423-273-440	1.2/A	1.1(104)-1
122	INPUT.SBR	637-627-464-023	427-631-054-224	1.4B ⁹	1.0(102)-1
123	LOKSER.LOK	275-534-515-413	635-571-704-237	1.2/A	1.1(105)-1
124	CRT420	147-654-716-145	601-505-742-375	1.2A	1.1(115)-1
125	TOWS	741-603-035-542	241-770-512-015	1.2A	1.0(109)-1
126	AM1013 ¹	122-336-261-410	115-404-241-534	1.2A	N/A
127	CRT410	405-521-372-156	156-014-032-364	1.2/A	1.0(101)-1
128	FIX420	765-465-057-702	212-322-040-112	1.2A	1.1(115)-2
129	CRT420	601-505-742-375	617-751-650-003	1.2A	1.1(115)-2
130	Internal Use				
131	Internal Use				
132	WRITE	276-212-162-106	746-061-302-336	1.1(174) ¹⁰	1.1(174)-1
133	WRT120.OVR	221-764-744-213	263-466-440-321	1.1(174) ¹⁰	1.1(174)-1
134	ISMBLD	420-217-367-750	003-520-050-016	1.2/A	1.1(116)-2
135	ISAM.SYS	554-151-435-725	153-736-001-654	1.2/A	1.1(116)-2
136	CALC	052-326-016-112	457-465-012-050	1.1(134) ¹²	1.1(134)-1
137	ISMDMP	656-115-276-262	655-731-516-273	1.2A	1.1(116)-2
138	ISMBLD	003-520-050-016	677-725-371-452	1.2/A	1.1(116)-3
139	Internal Use				
140	Internal Use				
141	Internal Use				
142	Internal Use				
143	Internal Use				
144	Internal Use				
145	Internal Use				
146	Internal Use				
147	AMOSL.MON ³	264-124-257-400	325-656-312-202	1.2(96)	1.2(96)-1
148	AMOSL.MON ³	213-542-054-220	473-431-067-576	1.2A(106)	1.2A(106)-1
149	WRT150.OVR	650-235-006-142	377-564-360-012	1.1(174) ¹⁰	1.1(174)-1
150	AM62A.TDV	724-231-035-776	502-013-637-721	1.2A	N/A

(continued)

3.5.1 (Continued)

AMOS/L Hash Totals for Patches

Software Patch Notice Master List (continued)

SPN Program	Old Hash Total	New Hash Total	Product Version	Program Version
151 CALC	457-465-012-050	713-747-035-572	1.0(134) ¹²	1.1(134)-2
152 CALC	547-423-431-521	267-526-374-302	1.0(134) ¹³	1.1(134)-4
153 AM364L.IDV ⁴	N/A	N/A	1.3/I/A	N/A
154 AM316L.IDV ¹	606-363-744-317	153-750-603-747	1.3/I/A	N/A
155 CALC	713-747-035-572	374-274-101-506	1.0(134) ¹²	1.1(134)-3
156 CALC	267-526-374-302	605-765-145-442	1.0(134) ¹³	1.1(134)-5
157 WRT170.OVR	314-074-721-631	543-705-703-677	1.1(174) ¹⁰	1.1(174)-2
158 WRT170.OVR	610-025-220-330	062-322-722-255	1.1A(174) ¹⁴	1.1A(174)-1
159 WRT150.OVR	377-564-360-012	010-250-562-137	1.1(174) ¹⁰	1.1(174)-2
160 WRT150.OVR	031-536-555-455	321-444-337-510	1.1A(174) ¹⁴	1.1A(174)-1
161 AMOSL.MON ³	351-406-051-460	216-216-002-036	1.3(123)	1.3(123)-1
162 LOKGEN	760-047-614-213	750-151-463-751	1.3-1	1.1(108)-1
163 RUN	010-124-127-636	347-420-471-445	1.3-1/I/A	1.3(196)-1
164 WRITE	174-122-075-652	370-036-521-531	1.1A(174) ¹⁴	1.1A(174)-1
165 AM62.TDV ¹	224-076-342-244	244-242-267-774	1.3-1/I/A	N/A
166 WRT070.OVR	062-322-722-255	351-752-764-307	1.1A(174) ¹⁴	1.1A(174)-2
167 TRIT25.DVR ²³	117-504-325-756	021-716-745-775	1.3-1	N/A
168 TRIT50.DVR ²³	522-213-550-005	434-321-330-144	1.3-1	N/A
169 TRIT80.DVR ²³	732-117-266-216	374-364-636-113	1.3-1	N/A
170 TRI300.DVR ²³	343-760-645-677	415-413-147-754	1.3-1	N/A
171 RUN	347-420-471-445	302-120-265-574	1.3-1/I/A	1.3(196)-2
172 AMOSL.MON ³	216-216-002-036	366-350-202-240	1.3-2	1.3(123)-2
173 AMOSL.MON ³	056-150-360-104	771-447-340-042	1.3I(125)	1.3I(125)-1
174 AMOSL.MON ³	077-452-671-573	760-345-532-025	1.3A(125)	1.3A(125)-1
175 TXTFMT	676-327-505-745	300-056-332-140	1.3-2/I/A-1	1.1(111)-1
177 SUBMIT	014-232-752-237	073-552-607-475	1.3-2/I/A-1	1.1(106)-1
179 PTCH	161-456-324-350	323-744-060-260	1.0(263) ¹⁵	2.0(112)-1
180 RUN	302-120-265-574	603-447-554-347	1.3-2/I/A-1	1.3(196)-3
181 WRT100.OVR	353-550-453-571	035-616-404-111	1.2(196) ¹⁶	1.2(196)-1
182 WRITE	742-011-322-026	715-401-136-260	1.2(196) ¹⁶	1.2(196)-1
183 WRT170.OVR	077-476-511-565	555-641-377-742	1.2(196) ¹⁶	1.2(196)-1
184 WRT200.OVR	603-461-357-442	206-032-620-055	1.2(196) ¹⁶	1.2(196)-1
185 CALC	440-063-607-601	547-423-535-521	1.2(150) ¹⁷	1.2(150)-1
186 FIX420	455-607-047-606	613-767-345-502	1.3I/A-1	1.1(122)-1
187 XXXCRT	602-007-325-446	707-617-326-140	1.3I/A-1	1.1(117)-1
188 AMOSL.MON	114-352-247-526	363-476-066-334	1.3B(151)	1.3B(151)-1
189 Internal Use				
190 Internal Use				
191 WRT170.OVR	555-641-377-742	364-306-153-410	1.2(196) ¹⁶	1.2(196)-2
192 WRT150.OVR	116-150-364-276	165-650-755-743	1.2(196) ¹⁶	1.2(196)-1
193 WINDOW.TDV	654-043-225-642	564-125-415-471	1.0(140) ¹⁸	N/A
194 AM62A.M68	675-721-155-664	020-070-536-235	All 1.3's	N/A
195 CALC	547-423-535-521	527-441-574-227	1.2(150) ¹⁷	1.2(150)-2
196 ALC270.OVR	333-704-611-571	240-222-742-311	1.2(150) ¹⁷	1.2(150)-1
197 Internal Use				
198 CRT415	771-651-351-636	621-735-323-732	1.3B(151)-1	1.0(105)-1
199 Internal Use				
200 Internal Use				

(continued)

3.5.1 (Continued)

AMOS/L Hash Totals for Patches

Software Patch Notice Master List (continued)

SPN Program	Old Hash Total	New Hash Total	Product Version	Program Version
201 Internal Use				
202 AM350M.MIC	441-565-546-033	145-404-752-327	1.3B(151)-1	N/A
203 WRITE	715-401-136-260	006-306-735-553	1.2(196) ¹⁶	1.2(196)-2
204 ISAM.SYS	165-620-170-054	543-737-617-777	1.3B(151)-1	1.1(124)-1
205 ISMBLD	310-300-365-416	362-136-436-145	1.3B(151)-1	1.1(124)-1
206 ISMDMP	251-676-374-126	115-630-252-334	1.3B(151)-1	1.1(124)-1
207 ISAM.SYS	543-737-617-777	610-223-175-410	1.3B(151)-1	1.1(124)-2
208 ISMBLD	362-136-436-145	141-560-574-157	1.3B(151)-1	1.1(124)-2
209 ISMDMP	115-630-252-334	107-622-766-267	1.3B(151)-1	1.1(124)-2
210 ISAM.SYS	605-735-410-155	110-366-132-274	1.0(154)	1.1(125)-1
211 ISMBLD	175-600-164-032	161-620-107-420	1.0(154)	1.1(125)-1
212 ISMDMP	602-103-223-536	074-066-662-113	1.0(154)	1.1(125)-1
213 WRT150.OVR	165-650-755-743	746-233-404-301	1.2(196) ¹⁶	1.2(196)-2
214 M681.OVR	600-277-222-240	123-402-234-006	1.0(263) ¹⁵	2.0(103)-1
215 CALC	527-441-574-227	264-102-714-177	1.2(150) ¹⁷	1.2(150)-3
216 MULTI	262-076-352-022	507-607-172-250	1.0(140) ¹⁸	1.0(140)-1
217 MLT110.OVR	002-232-553-741	544-121-444-351	1.0(140) ¹⁸	1.0(140)-1
218 RUN	461-747-314-210	051-410-016-314	1.3B & 1.0	1.3(204)-1
219 COMPIL	715-631-033-676	354-112-302-354	1.3B & 1.0	1.3(204)-1
220 LOKSER.LOK	707-545-535-413	313-610-117-672	1.3s & 1.0	1.1(108)-1
221 LOKUTL	515-623-171-710	376-242-500-263	1.3s & 1.0	1.1(108)-1
222 415DVR.DVR	474-341-510-103	465-425-522-305	1.3B & 1.0	N/A
223 COMPIL	354-112-302-354	267-640-064-352	1.3B & 1.0	1.3(204)-2
224 420DVR.DVR	351-654-512-043	515-633-211-616	1.3B(151)-1	N/A
225 420DVR.RTD	334-270-510-007	552-167-635-411	1.3B(151)-1	N/A
226 WRT170.OVR	364-306-153-410	207-774-575-673	1.2(196) ¹⁶	1.2(196)-3
227 ALC070.OVR	331-560-652-233	213-766-502-257	1.2(150) ¹⁷	1.2(150)-1
228 ALC120.OVR	112-114-565-415	521-771-036-172	1.2(150) ¹⁷	1.2(150)-1
229 AMOSL.MON	363-476-066-334	051-426-117-400	1.3B(151)-1	1.3B(151)-2
230 AMOS32.MON ³	262-104-654-101	327-502-044-246	1.0(154)-1	1.3B(151)-2
231 MSGINI	105-514-416-163	157-544-532-257	1.3B & 1.0	1.1(101)-1
232 RJE	246-140-732-031	426-067-106-162	2.0A(114) ¹⁹	2.0A(114)-1
233 AM515.MIC	652-257-144-260	255-730-776-007	515 Phz II ²⁰	N/A
234 Internal Use				
235 WRITE	006-306-735-553	260-374-207-464	1.2(196) ¹⁶	1.2(196)-3
236 STAT	013-516-711-667	140-336-572-221	1.3B & 1.0	1.1(110)-1
237 VIDVME.NDV	533-421-143-450	456-147-735-537	1.3B & 1.0	N/A
238 WRITE	260-374-207-464	312-160-727-605	1.2(196) ¹⁶	1.2(196)-4
239 LOG	213-730-060-010	433-657-266-112	1.3B(151)-2	1.1(118)
240 LOG	032-112-771-645	534-237-044-340	1.0(154)-1	1.0(124)
241 SMCBAS.LIT	425-567-136-336	743-735-217-702	1.0A(139) ²¹	1.0A(144)
SMCBAS.RTI	750-143-267-556	663-705-770-305	N/A ²¹	N/A
SMC000.OVR	Indeterminant	517-557-036-200	1.0A(139) ²¹	1.0A(144)
242 Internal Use				
243 Internal Use				
244 515DVR.DVR	217-574-253-440	225-472-046-066	AM-622 Soft ²²	N/A
245 AM515.MIC	042-312-642-235	277-530-064-332	AM-622 Soft ²²	N/A
246 LOKSER.LOK	313-610-117-672	672-375-117-736	1.3B & 1.0	1.1(108)-2
247 Internal Use				
248 Internal Use				
249 CRT415	115-444-551-767	612-123-257-456	1.0(154)-1	1.0(106)
250 WRMGEN	526-045-601-455	127-410-222-072	1.3C(157)	1.1(121)-1

(continued)

3.5.1 (Continued)

AMOS/L Hash Totals for Patches

Software Patch Notice Master List (continued)

SPN Program	Old Hash Total	New Hash Total	Product Version	Program Version
251 Internal Use				
252 LSYS.MON	051-426-117-400	040-156-636-147	1.3B(151)-2	1.3B(151)-6
253 32SYS.MON	327-502-044-246	630-067-131-632	1.0(154)-1	1.0(154)-6
254 AM1213.IDV	454-025-665-547	115-442-146-350	1.3C(157)	N/A
255 SMCBAS	743-735-217-702	555-531-165-712	1.0A(144) ²¹	1.0A(144)-1
256 In test				
257 In test				
258 515DVR.DVR	465-563-145-626	066-366-604-171	1.3C & 1.0A	N/A
259 AM515.MIC	235-420-613-715	345-472-532-331	1.3C & 1.0A	N/A
260 LSY008.MON ³	214-334-024-244	276-320-123-724	1.3C(157)	1.3C(157)-1
261 LSYS16.MON ³	417-461-270-264	671-667-614-065	1.3C(157)	1.3C(157)-1
262 LSYS32.MON ³	622-353-061-444	001-406-011-554	1.3C(157)	1.3C(157)-1
263 LSYS64.MON ³	771-451-612-237	412-033-537-625	1.3C(157)	1.3C(157)-1
264 LSY128.MON ³	022-262-655-415	567-725-322-172	1.3C(157)	1.3C(157)-1
265 LSYUNL.MON ³	071-734-605-745	745-645-664-003	1.3C(157)	1.3C(157)-1
266 LSYS.MON	040-156-636-147	445-405-160-214	1.3B(151)-6	1.3B(151)-7
267 TSKINI	756-163-446-011	516-377-141-664	All AMOS	1.1(109)-1
268 TSKMAN.OVR	561-401-517-631	465-607-644-263	All AMOS	1.1(109)-1
269 Internal Use				
270 In test				
271 FIXCRC	337-676-670-041	221-554-136-342	All AMOS	1.0(100)-1
272 FLPWIN	625-427-175-414	644-041-315-434	All AMOS	1.2(104)-1

FOOTNOTES

TO SOFTWARE PATCHES MASTER LIST

- These patches are changes to programs that are supplied with source code. The hash totals are those of the assembled programs.
- This patch was not shipped to the general public. It was generated for the benefit of our European Customers. It disables a feature in TXTFMT where a back-slash would be translated to a forward slash if it was encountered in column one of the .TXT file.
- Hashes used with this monitor patch were generated with the MONHSH utility.
- Hashes cannot be verified due to the many available configurations of boards and ports. Be careful with these.
- AlphaAccounting Version 1.4
- AlphaWRITE Version 1.0(140)
- AlphaCALC Version 1.0(111)
- AlphaWRITE Version 1.0A(140)
- AlphaAccounting Version 1.4B

10 AlphaWRITE Version 1.1(174)

11 AlphaPASCAL Version 1.0(105)

12 AlphaCALC Version 1.1(134) Pre AMOS/L 1.3 Release Version

13 AlphaCALC Version 1.1(134)-3 Post AMOS/L 1.3 Release adding Task Manager Spooler support.

14 AlphaWRITE Version 1.1A(174) adding Task Manager Spooler support.

15 AlphaC Version 1.0(263)

16 AlphaWRITE Version 1.2(196)

17 AlphaCALC Version 1.2(150)

18 MULTI Version 1.0(140)

19 AlphaRJE Version 2.0A(114)

20 AM-515 Phase II Update Software for AMOS/L 1.3B and AMOS/32 1.0

21 SMC Basic Version 1.0A(139) was upgraded in the field by SPN-241 to 1.0A(144). If your version of SMC for AMOS is neither of these, contact your Dealer or Technical Support for assistance.

22 AM-622 VME Streamer Support Software for AMOS/L 1.3B and AMOS/32 1.0

23 Available upon request from Technical Support. These patches provide support for Software Disk Caching.

3.5.1 (Continued)

AMOS/L Hash Totals for Patches

AMOS/L 1.3(123) PATCHES

The patches shown in the following list should be installed on all 1.3(123) Systems:

SPN Program	Old Hash Total	New Hash Total	Product Version	Program Version
153 AM364L.IDV	N/A	N/A	1.3/I/A	N/A
154 AM316L.IDV	606-363-744-317	153-750-603-747	1.3/I/A	N/A
161 AMOSL.MON	351-406-051-460	216-216-002-036	1.3(123)	1.3(123)-1
162 LOKGEN	760-047-614-213	750-151-463-751	1.3-1	1.1(108)-1
163 RUN	010-124-127-636	347-420-471-445	1.3-1/I/A	1.3(196)-1
165 AM62.TDV	224-076-342-244	244-242-267-774	1.3-1/I/A	N/A
167 TRIT25.DVR	117-504-325-756	021-716-745-775	1.3-1	N/A
168 TRIT50.DVR	522-213-550-005	434-321-330-144	1.3-1	N/A
169 TRIT80.DVR	732-117-266-216	374-364-636-113	1.3-1	N/A
170 TRI300.DVR	343-760-645-677	415-413-147-754	1.3-1	N/A
171 RUN	347-420-471-445	302-120-265-574	1.3-1/I/A	1.3(196)-2
172 AMOSL.MON	216-216-002-036	366-350-202-240	1.3-2	1.3(123)-2
175 TXTFMT	676-327-505-745	300-056-332-140	1.3-2/I/A-1	1.1(111)-1
177 SUBMIT	014-232-752-237	073-552-607-475	1.3-2/I/A-1	1.1(106)-1
180 RUN	302-120-265-574	603-447-554-347	1.3-2/I/A-1	1.3(196)-3
194 AM62A.M68	675-721-155-664	020-070-536-235	All 1.3's	N/A
220 LOKSER.LOK	707-545-535-413	313-610-117-672	1.3s & 1.0	1.1(108)-1
221 LOKUTL	515-623-171-710	376-242-500-263	1.3s & 1.0	1.1(108)-1
267 TSKINI	756-163-446-011	516-377-141-664	All AMOS	1.1(109)-1
268 TSKMAN.OVR	561-401-517-631	465-607-644-263	All AMOS	1.1(109)-1
271 FIXCRC	337-676-670-041	221-554-136-342	All AMOS	1.0(100)-1
272 FLPWIN	625-427-175-414	644-041-315-434	All AMOS	1.2(104)-1

AMOS/L 1.3A(125) PATCHES AND AMOSL/1.3I PATCHES

The patches shown in the following list should be installed on all 1.3(125) or 1.3I Systems:

SPN Program	Old Hash Total	New Hash Total	Product Version	Program Version
153 AM364L.IDV	N/A	N/A	1.3/I/A	N/A
154 AM316L.IDV	606-363-744-317	153-750-603-747	1.3/I/A	N/A
163 RUN	010-124-127-636	347-420-471-445	1.3-1/I/A	1.3(196)-1
165 AM62.TDV	224-076-342-244	244-242-267-774	1.3-1/I/A	N/A
171 RUN	347-420-471-445	302-120-265-574	1.3-1/I/A	1.3(196)-2
173 AMOSL.MON	056-150-360-104	771-447-340-042	1.3I(125)	1.3I(125)-1
174 AMOSL.MON	077-452-671-573	760-345-532-025	1.3A(125)	1.3A(125)-1
175 TXTFMT	676-327-505-745	300-056-332-140	1.3-2/I/A-1	1.1(111)-1
177 SUBMIT	014-232-752-237	073-552-607-475	1.3-2/I/A-1	1.1(106)-1
180 RUN	302-120-265-574	603-447-554-347	1.3-2/I/A-1	1.3(196)-3
186 FIX420	455-607-047-606	613-767-345-502	1.3I/A-1	1.1(122)-1
187 XXXCRT	602-007-325-446	707-617-326-140	1.3I/A-1	1.1(117)-1
194 AM62A.M68	675-721-155-664	020-070-536-235	All 1.3's	N/A
220 LOKSER.LOK	707-545-535-413	313-610-117-672	1.3s & 1.0	1.1(108)-1
221 LOKUTL	515-623-171-710	376-242-500-263	1.3s & 1.0	1.1(108)-1
267 TSKINI	756-163-446-011	516-377-141-664	All AMOS	1.1(109)-1
268 TSKMAN.OVR	561-401-517-631	465-607-644-263	All AMOS	1.1(109)-1
271 FIXCRC	337-676-670-041	221-554-136-342	All AMOS	1.0(100)-1
272 FLPWIN	625-427-175-414	644-041-315-434	All AMOS	1.2(104)-1

3.5.1 (Continued)

AMOS/L Hash Totals for Patches

AMOS/L 1.3B(151) PATCHES

The patches shown in the following list should be installed on all 1.3B(151) Systems:

SPN Program	Old Hash Total	New Hash Total	Product Version	Program Version
165 AM62.TDV	224-076-342-244	244-242-267-774	1.3-1/I/A	N/A
175 TXTFMT	676-327-505-745	300-056-332-140	1.3-2/I/A-1	1.1(111)-1
188 AMOSL.MON	114-352-247-526	363-476-066-334	1.3B(151)	1.3B(151)-1
194 AM62A.M68	675-721-155-664	020-070-536-235	All 1.3's	N/A
198 CRT415	771-651-351-636	621-735-323-732	1.3B(151)-1	1.0(105)-1
202 AM350M.MIC ¹	441-565-546-033	145-404-752-327	1.3B(151)-1	N/A
204 ISAM.SYS	165-620-170-054	543-737-617-777	1.3B(151)-1	1.1(124)-1
205 ISMBLD	310-300-365-416	362-136-436-145	1.3B(151)-1	1.1(124)-1
206 ISMDMP	251-676-374-126	115-630-252-334	1.3B(151)-1	1.1(124)-1
207 ISAM.SYS	543-737-617-777	610-223-175-410	1.3B(151)-1	1.1(124)-2
208 ISMBLD	362-136-436-145	141-560-574-157	1.3B(151)-1	1.1(124)-2
209 ISMDMP	115-630-252-334	107-622-766-267	1.3B(151)-1	1.1(124)-2
218 RUN	461-747-314-210	051-410-016-314	1.3B & 1.0	1.3(204)-1
219 COMPIL	715-631-033-676	354-112-302-354	1.3B & 1.0	1.3(204)-1
220 LOKSER.LOK	707-545-535-413	313-610-117-672	1.3s & 1.0	1.1(108)-1
221 LOKUTL	515-623-171-710	376-242-500-263	1.3s & 1.0	1.1(108)-1
222 415DVR.DVR	474-341-510-103	465-425-522-305	1.3B & 1.0	N/A
223 COMPIL	354-112-302-354	267-640-064-352	1.3B & 1.0	1.3(204)-2
224 420DVR.DVR	351-654-512-043	515-633-211-616	1.3B(151)-1	N/A
225 420DVR.RTD	334-270-510-007	552-167-635-411	1.3B(151)-1	N/A
229 AMOSL.MON	363-476-066-334	051-426-117-400	1.3B(151)-1	1.3B(151)-2
231 MSGINI	105-514-416-163	157-544-532-257	1.3B & 1.0	1.1(101)-1
233 AM515.MIC ²	652-257-144-260	255-730-776-007	515 Phz II	N/A
236 STAT	013-516-711-667	140-336-572-221	1.3B & 1.0	1.1(110)-1
237 VIDVME.NDV	533-421-143-450	456-147-735-537	1.3B & 1.0	N/A
239 LOG	213-730-060-010	433-657-266-112	1.3B(151)-2	1.1(118)
244 515DVR.DVR	217-574-253-440	225-472-046-066	AM-622 Soft	N/A
245 AM515.MIC	042-312-642-235	277-530-064-332	AM-622 Soft	N/A
246 LOKSER.LOK	313-610-117-672	672-375-117-736	1.3B & 1.0	1.1(108)-2
252 LSYS.MON	051-426-117-400	040-156-636-147	1.3B(151)-2	1.3B(151)-6
266 LSYS.MON	040-156-636-147	445-405-160-214	1.3B(151)-6	1.3B(151)-7
267 TSKINI	756-163-446-011	516-377-141-664	All AMOS	1.1(109)-1
268 TSKMAN.OVR	561-401-517-631	465-607-644-263	All AMOS	1.1(109)-1
271 FIXCRC	337-676-670-041	221-554-136-342	All AMOS	1.0(100)-1
272 FLPWIN	625-427-175-414	644-041-315-434	All AMOS	1.2(104)-1

Footnotes:

- 1 Obsolete by AM-350 Phase I Update Software
- 2 Obsolete by AM-622 VME Steamer Support Software

3.5.1 (Continued)

AMOS/L Hash Totals for Patches

AMOS/L 1.3C(157) PATCHES

The patches shown in the following list should be installed on all 1.3C(157) Systems:

SPN Program	Old Hash Total	New Hash Total	Product Version	Program Version
250 WRMGEN	526-045-601-455	127-410-222-072	1.3C(157)	1.1(121)-1
254 AM1213.IDV	454-025-665-547	115-442-146-350	1.3C(157)	N/A
258 515DVR.DVR	465-563-145-626	066-366-604-171	1.3C & 1.0A	N/A
259 AM515.MIC	235-420-613-715	345-472-532-331	1.3C & 1.0A	N/A
260 LSY008.MON	214-334-024-244	276-320-123-724	1.3C(157)	1.3C(157)-1
261 LSYS16.MON	417-461-270-264	671-667-614-065	1.3C(157)	1.3C(157)-1
262 LSYS32.MON	622-353-061-444	001-406-011-554	1.3C(157)	1.3C(157)-1
263 LSYS64.MON	771-451-612-237	412-033-537-625	1.3C(157)	1.3C(157)-1
264 LSY128.MON	022-262-655-415	567-725-322-172	1.3C(157)	1.3C(157)-1
265 LSYUNL.MON	071-734-605-745	745-645-664-003	1.3C(157)	1.3C(157)-1
267 TSKINI	756-163-446-011	516-377-141-664	All AMOS	1.1(109)-1
268 TSKMAN.OVR	561-401-517-631	465-607-644-263	All AMOS	1.1(109)-1
271 FIXCRC	337-676-670-041	221-554-136-342	All AMOS	1.0(100)-1
272 FLPWIN	625-427-175-414	644-041-315-434	All AMOS	1.2(104)-1

PATCHES TO SPECIAL PURCHASE SOFTWARE

The following products are included in the next lists:

AlphaWRITE 1.1(174)	AlphaCALC 1.1(134) (Pre AMOS/L 1.3)
AlphaWRITE 1.1A(174)	AlphaCALC 1.1(134) (Post AMOS/L 1.3)
AlphaWRITE 1.2(196)	AlphaCALC 1.2(150)
AlphaMATE	AlphaACCOUNTING Subroutines 1.4B
AlphaC 1.0(263)	AlphaRJE 2.0A(114)
MULTI 1.0(140)	SMC Basic 1.0A(139) and/or 1.0A(144)

AlphaWRITE 1.1(174)

The following patches should be installed on AlphaWRITE 1.1(174):

SPN Program	Old Hash Total	New Hash Total	Product Version	Program Version
113 WRT170.OVR	132-160-377-414	314-074-721-631	1.1(174)	1.1(174)-1
132 WRITE	276-212-162-106	746-061-302-336	1.1(174)	1.1(174)-1
133 WRT120.OVR	221-764-744-213	263-466-440-321	1.1(174)	1.1(174)-1
149 WRT150.OVR	650-235-006-142	377-564-360-012	1.1(174)	1.1(174)-1
157 WRT170.OVR	314-074-721-631	543-705-703-677	1.1(174)	1.1(174)-2
159 WRT150.OVR	377-564-360-012	010-250-562-137	1.1(174)	1.1(174)-2

3.5.1 (Continued)

AMOS/L Hash Totals for Patches

AlphaWRITE 1.1A(174)

The following patches should be installed on AlphaWRITE 1.1A(174):

SPN Program	Old Hash Total	New Hash Total	Product Version	Program Version
158 WRT170.OVR	610-025-220-330	062-322-722-255	1.1A(174)	1.1A(174)-1
160 WRT150.OVR	031-536-555-455	321-444-337-510	1.1A(174)	1.1A(174)-1
164 WRITE	174-122-075-652	370-036-521-531	1.1A(174)	1.1A(174)-1
166 WRT070.OVR	062-322-722-255	351-752-764-307	1.1A(174)	1.1A(174)-2

AlphaWRITE Version 1.2(196)

The following patches should be installed on AlphaWRITE 1.2(196)

SPN Program	Old Hash Total	New Hash Total	Product Version	Program Version
181 WRT100.OVR	353-550-453-571	035-616-404-111	1.2(196)	1.2(196)-1
182 WRITE	742-011-322-026	715-401-136-260	1.2(196)	1.2(196)-1
183 WRT170.OVR	077-476-511-565	555-641-377-742	1.2(196)	1.2(196)-1
184 WRT200.OVR	603-461-357-442	206-032-620-055	1.2(196)	1.2(196)-1
191 WRT170.OVR	555-641-377-742	364-306-153-410	1.2(196)	1.2(196)-2
192 WRT150.OVR	116-150-364-276	165-650-755-743	1.2(196)	1.2(196)-1
194 AM62A.M68	675-721-155-664	020-070-536-235	1.2(196)	N/A
203 WRITE	715-401-136-260	006-306-735-553	1.2(196)	1.2(196)-2
213 WRT150.OVR	165-650-755-743	746-233-404-301	1.2(196)	1.2(196)-2
226 WRT170.OVR	364-306-153-410	207-774-575-673	1.2(196)	1.2(196)-3
235 WRITE	006-306-735-553	260-374-207-464	1.2(196)	1.2(196)-3
238 WRITE	260-374-207-464	312-160-727-605	1.2(196)	1.2(196)-4

AlphaCALC 1.1(134) - Pre AMOS/L 1.3

These patches should be installed on the pre AMOS/L 1.3 Version of AlphaCALC 1.1(134):

SPN Program	Old Hash Total	New Hash Total	Product Version	Program Version
136 CALC	052-326-016-112	457-465-012-050	1.1(134)	1.1(134)-1
151 CALC	457-465-012-050	713-747-035-572	1.0(134)	1.1(134)-2
155 CALC	713-747-035-572	374-274-101-506	1.0(134)	1.1(134)-3

AlphaCALC 1.1(134) Post AMOS/L 1.3

These patches should be installed on the post AMOS/L 1.3 Version of AlphaCALC 1.1(134):

SPN Program	Old Hash Total	New Hash Total	Product Version	Program Version
152 CALC	547-423-431-521	267-526-374-302	1.0(134)	1.1(134)-4
156 CALC	267-526-374-302	605-765-145-442	1.0(134)	1.1(134)-5

3.5.1 (Continued)

AMOS/L Hash Totals for Patches

AlphaCALC 1.2(150)

These patches should be installed on AlphaCALC 1.2(150):

SPN Program	Old Hash Total	New Hash Total	Product Version	Program Version
185 CALC	440-063-607-601	547-423-535-521	1.2(150)	1.2(150)-1
195 CALC	547-423-535-521	527-441-574-227	1.2(150)	1.2(150)-2
196 ALC270.OVR	333-704-611-571	240-222-742-311	1.2(150)	1.2(150)-1
215 CALC	527-441-574-227	264-102-714-177	1.2(150)	1.2(150)-3
227 ALC070.OVR	331-560-652-233	213-766-502-257	1.2(150)	1.2(150)-1
228 ALC120.OVR	112-114-565-415	521-771-036-172	1.2(150)	1.2(150)-1

AlphaACCOUNTING Subroutines Version 1.4B

These patches should be installed for AlphaACCOUNTING Subroutines Version 1.4B:

107 PRINT.SBR	417-451-040-072	052-062-565-447	1.4B	1.0(102)-1
122 INPUT.SBR	637-627-464-023	427-631-054-224	1.4B	1.0(102)-1

AlphaMATE

These patches should be installed for AlphaMATE:

SPN Program	Old Hash Total	New Hash Total	Product Version	Program Version
125 TOWS	741-603-035-542	241-770-512-015	1.0(109)	1.0(109)-1

AlphaC 1.0(263)

Patches to AlphaC Version 1.0(263):

SPN Program	Old Hash Total	New Hash Total	Product Version	Program Version
179 PTCH	161-456-324-350	323-744-060-260	1.0(263)	2.0(112)-1
214 M681.OVR	600-277-222-240	123-402-234-006	1.0(263)	2.0(103)-1

3.5.1 (Continued)

AMOS/L Hash Totals for Patches

MULTI 1.0(140)

These patches should be installed to MULTI version 1.0(140):

SPN Program	Old Hash Total	New Hash Total	Product Version	Program Version
193 WINDOW.TDV	654-043-225-642	564-125-415-471	1.0(140)	N/A
216 MULTI	262-076-352-022	507-607-172-250	1.0(140)	1.0(140)-1
217 MLT110.OVR	002-232-553-741	544-121-444-351	1.0(140)	1.0(140)-1

AlphaRJE 2.0A(114)

These patches should be installed to AlphaRJE version 2.0A(114):

SPN Program	Old Hash Total	New Hash Total	Product Version	Program Version
232 RJE	246-140-732-031	426-067-106-162	2.0A(114)	2.0A(114)-1

SMC Basic 1.0A(139) and/or 1.0A(144)

These patches should be installed to to SMC Basic Version 1.0A(139) and/or 1.0A(144). The correction to SMC Basic provided by SPN-241 was not made available via the traditional PTCH utility. It was a modular replacement of the three files involved. To the best of our knowledge, all those MLP holders have received a copy of these modules. If you need them, then contact your dealer or Technical Support for details.

SPN Program	Old Hash Total	New Hash Total	Product Version	Program Version
241 SMCBAS.LIT	425-567-136-336	743-735-217-702	1.0A(139)	1.0A(144)
SMCBAS.RTI	750-143-267-556	663-705-770-305	N/A	N/A
SMC000.OVR	Indeterminant	517-557-036-200	1.0A(139)	1.0A(144)
255 SMCBAS	743-735-217-702	555-531-165-712	1.0A(144)	1.0A(144)-1

6.4.3

Problem Workaround: Using VIDEOTRAX on the Compaq Model 386

In order to use the VIDEOTRAX VCR Backup System on the Compaq 386 computer, it is necessary to first set the CPU speed of the Compaq 386 to 8MHz so that VIDEOTRAX can function correctly.

The Compaq 386 allows you to set the CPU speed to support specific applications. Before bringing up VIDEOTRAX, use the MODE SPEED command. From the DOS C: root directory, type the following:

```
MODE SPE=FAS [ENTER]
```

This command sets the Compaq CPU to the 8MHz operating speed of an 80286-based product. This does not affect the backup speed of the VIDEOTRAX product. For further information on the use of the MODE SPE[ed] command, refer to the Compaq Operations Guide (Section C) supplied with the Compaq computer.

For more information or support on the operation of VIDEOTRAX on the 386 computer, please contact Alpha Micro's Technical Support Group at (714) 641-7608.

6.6.1

TXTFMT: New Even and Odd Title Commands

As of TXTFMT version 1.1(111) there are two new commands for printing page titles, not documented in the current TXTFMT User's Manual. These commands are:

```
/EVENTITLE
/ODDTITLE
```

These commands use the same format and follow similar rules as /TITLE but allow you to specify different text to be printed as titles on even numbered pages and odd numbered pages.

You can use the /EVENTITLE and /ODDTITLE commands together to offset title text. For example, the titles shown in the following illustration were caused by using this text for the even title:

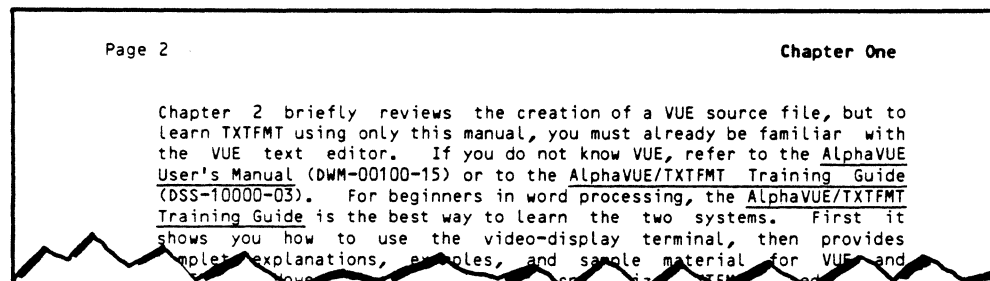
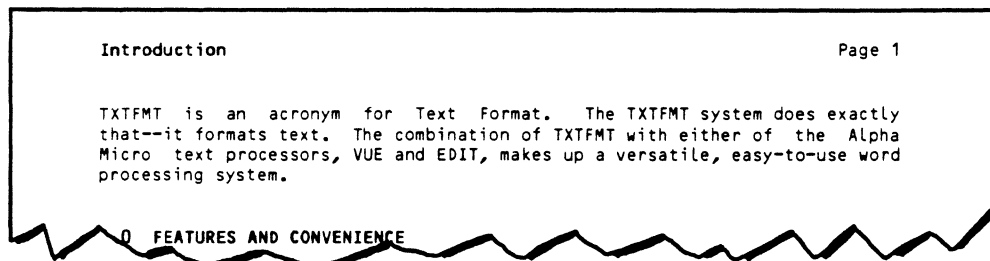
```
/EVENTITLE Chapter One
/ODDTITLE Introduction to TXTFMT
```

You can abbreviate:

```
/EVENTITLE as /ETTL, and
/ODDTITLE as /OTTL
```

Like /TITLE, the /EVENTITLE and /ODDTITLE commands do not print title text on page number one of your printed file. However, you can override this by using the /PAGE command to intentionally include a blank page as the first in your file.

You can use the three title commands in any combination within your file. The most recent title command in effect for that kind of page-- either even or odd-- is the one TXTFMT uses when your document is formatted.



8.5.1

AMOS/32 Hash Totals for Patches

This article is the first to be assigned in the new category and lists the SPNs applying to the AMOS/32 versions of the operating system. Only the AMOS/32 SPNs will appear in this section. To review the master list of SPNs for operating system releases or special purpose software, see June 1987 Journal Software article 3.5.1 - "AMOS/L Hash Totals for Patches."

Auxiliary Software Updates

The AMOS/L 1.3B(151) and AMOS/32 1.0(154) versions of the operating system are more complicated than previous releases because auxiliary software is required to bring these versions to the latest revision. Both AMOS Software releases require the following software updates to be made, in the same order as shown in the list below:

1. AM-350 Phase I Update
2. AM-515 Phase II Update
3. AM-640 Mag Tape Backup Software
4. AM-622 VME Streamer Support Software

Each of these auxiliary software support update tapes is required regardless of hardware configuration. Although they supply new software support for the new hardware they also update system software programs you already have to ensure compatibility with the new hardware.

Upgrading to AMOS/L 1.3C or AMOS/32 1.0A will avoid the need to install these auxiliary software tapes.

Further discussion of update requirements will appear in a future article. In the mean time, if you think a problem is caused by a difference in software ver-

sions, contact your dealer or Technical Support.

Reading the SPN Lists

The SPN lists are organized into 6 columns:

SPN

Software Patch Notice number. Lists the SPN number assigned to this patch.

Program

Lists the file name and extension to which the patch is applied. If no extension appears, .LIT is assumed.

Old Hash Total

Hash total for the file before the patch is made. "N/A" for the AMOSL.MON patches, for releases prior to the existence of MONHSH, indicates a hash total on the monitor is meaningless since part of the monitor is the device driver.

New Hash Total

Hash total for the file after the patch is made. "N/A" for the AMOSL.MON patches indicates a hash total on the monitor is meaningless since part of the monitor is the device driver.

Product Version

Version number of the software product-- such as AMOS/L 1.0, AlphaWRITE 1.1A, AlphaCALC 1.2, etc.-- under which this patch is applied.

Program Version

Version number for the program after installing the patch. "N/A" in this column means the program does not have a version number.

8.5.1 (Continued)

AMOS/32 Hash Totals for Patches

AMOS/32 1.0(154) PATCHES

The following patches should be installed on all 1.0(154) Systems:

SPN Program	Old Hash Total	New Hash Total	Product Version	Program Version
210 ISAM.SYS	605-735-410-155	110-366-132-274	1.0(154)	1.1(125)-1
211 ISMBLD	175-600-164-032	161-620-107-420	1.0(154)	1.1(125)-1
212 ISMDMP	602-103-223-536	074-066-662-113	1.0(154)	1.1(125)-1
218 RUN	461-747-314-210	051-410-016-314	1.3B & 1.0	1.3(204)-1
219 COMPIL	715-631-033-676	354-112-302-354	1.3B & 1.0	1.3(204)-1
220 LOKSER.LOK	707-545-535-413	313-610-117-672	1.3s & 1.0	1.1(108)-1
221 LOKUTL	515-623-171-710	376-242-500-263	1.3s & 1.0	1.1(108)-1
222 415DVR.DVR	474-341-510-103	465-425-522-305	1.3B & 1.0	N/A
223 COMPIL	354-112-302-354	267-640-064-352	1.3B & 1.0	1.3(204)-2
230 AMOS32.MON	262-104-654-101	327-502-044-246	1.0(154)-1	1.3B(151)-2
231 MSGINI	105-514-416-163	157-544-532-257	1.3B & 1.0	1.1(101)-1
233 AM515.MIC	652-257-144-260	255-730-776-007	515 Phz II	N/A
236 STAT	013-516-711-667	140-336-572-221	1.3B & 1.0	1.1(110)-1
237 VIDVME.NDV	533-421-143-450	456-147-735-537	1.3B & 1.0	N/A
240 LOG	032-112-771-645	534-237-044-340	1.0(154)-1	1.0(124)
244 515DVR.DVR	217-574-253-440	225-472-046-066	AM-622 Soft	N/A
245 AM515.MIC	042-312-642-235	277-530-064-332	AM-622 Soft	N/A
246 LOKSER.LOK	313-610-117-672	672-375-117-736	1.3B & 1.0	1.1(108)-2
249 CRT415	115-444-551-767	612-123-257-456	1.0(154)-1	1.0(106)
253 32SYS.MON	327-502-044-246	630-067-131-632	1.0(154)-1	1.0(154)-6
267 TSKINI	756-163-446-011	516-377-141-664	All AMOS	1.1(109)-1
268 TSKMAN.OVR	561-401-517-631	465-607-644-263	All AMOS	1.1(109)-1
271 FIXCRC	337-676-670-041	221-554-136-342	All AMOS	1.0(100)-1
272 FLPWIN	625-427-175-414	644-041-315-434	All AMOS	1.2(104)-1

AMOS/32 1.0A(157) PATCHES

The following patches should be installed on all 1.0A(157) Systems:

SPN Program	Old Hash Total	New Hash Total	Product Version	Program Version
210 ISAM.SYS	605-735-410-155	110-366-132-274	1.0 & 1.0A	1.1(125)-1
211 ISMBLD	175-600-164-032	161-620-107-420	1.0 & 1.0A	1.1(125)-1
212 ISMDMP	602-103-223-536	074-066-662-113	1.0 & 1.0A	1.1(125)-1
267 TSKINI	756-163-446-011	516-377-141-664	All AMOS	1.1(109)-1
268 TSKMAN.OVR	561-401-517-631	465-607-644-263	All AMOS	1.1(109)-1
271 FIXCRC	337-676-670-041	221-554-136-342	All AMOS	1.0(100)-1
272 FLPWIN	625-427-175-414	644-041-315-434	All AMOS	1.2(104)-1

3.2.5 New Documentation Releases

Several new user manuals are available for sale in June. (See the June Alpha Micro Reseller Price List for prices.) The new documents are:

UNIFY 3.1 on AMOS Release Notes,
DSO-00020-00

The Release Notes discuss the new product, UNIFY on AMOS, a data base management system that runs under AMOS.

UNIFY on AMOS Tutorial,
PDB-00015-04

This volume of the UNIFY on AMOS documentation contains information on getting started with UNIFY under the AMOS operating system.

UNIFY on AMOS Reference Guide,
PDB-00015-03

This volume of the UNIFY on AMOS documentation contains complete reference material on using UNIFY under the AMOS operating system, and includes the UNIFY 3.1 on AMOS Release Notes and installation instructions.

AMSD Planning and Installation Guide,
DSO-00034-00

This guide supplements the existing Alpha Micro installation guides by giving detailed, technical information on installation site planning. Topics include information on site layout, installation checklists, terminal cabling considerations, power conditioners and UPS systems, and isolated ground receptacles.

AMOS Terminal Programmer's Guide,
DSS-10096-00

This book is intended for the programmer who wishes to write programs that make use of terminal display features. It contains practical information on using AMOS terminal display calls from within assembly language and AlphaBASIC programs, as well as background information on human engineering principles as they relate to selecting terminal display features.

AMSD JOURNAL TABLE OF CONTENTS UPDATE PAGES

The next pages of the Journal are updated Table of Contents pages for your back issue volumes. The updated pages are:

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- A footer line at the bottom of each table of contents page shows you revision information. This line shows month, year, volume and issue number of the Journal this table of contents page arrived with.
- All table of contents pages have a title line showing which volume they belong in: Hardware, Software or General Information.
- Entries for articles published since 1983 show the month and year of publication.
- Cross reference article entries use this format:

"Article Name" - Cross reference: See Volume Name
Article #.#.# - [Month Year]

Where Volume Name is Hardware, Software or General Information. Where #.#.# is the article number designating section, category and article number. (For example, article 6.4.3 is filed in section 6, under category 4 and is the 3rd article in category 4.) [Month Year] is the Journal publication date for the article.

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- 8.1.2 "AMOS 2.0: File System Technical Overview" - Cross reference:
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